

R E M A R K S

Careful review and examination of the subject application are noted and appreciated.

SUPPORT FOR THE CLAIM AMENDMENTS

Support for the claim amendments may be found in the specification, for example, on page 9 lines 3-11 and page 13 lines 14-20, as originally filed. Thus, no new matter has been added and no new issues are believed to be raised.

As the amendments remove the 35 U.S.C. §112 rejection from issue, the amendments should be entered per MPEP §714.13 II. If the amendments are not entered, Applicants respectfully request a concise explanation per MPEP §714.13 III.

Furthermore, the current Office Action is incomplete for reasons set forth below. Therefore, the finality of the current Office Action should be withdrawn, the amendments entered, and either (i) a new Office Action or (ii) a Notice of Allowance should be issued.

CLAIM REJECTIONS UNDER 35 U.S.C. §112

The rejection of claims 22 and 24 under 35 U.S.C. §112, first paragraph written description, has been obviated by appropriate amendment and should be withdrawn.

While Applicants do not necessarily agree with the rejection, in order to advance the prosecution claims 22 and 24

have been amended to indicate reception of a test packet instead of a test vector as suggested on pages 2-3 of the Office Action. Other claims have been amended for consistency with claims 22 and 24. As such, the amendment should be entered and the rejection should be withdrawn.

CLAIM REJECTIONS UNDER 35 U.S.C. §103

The rejection of claims 1-12, 14-21, 23 and 25 under 35 U.S.C. §103(a) as being unpatentable over "SBAE-10 Bus Analyzer-Exerciser User's Manual" and "Analyzer/Exercise/Tester" specification sheet, both by Catalyst Enterprises, Inc. (hereafter Catalyst) in view of Goutzoulis et al. '630 (hereafter Goutzoulis) and Krause et al. '911 (hereafter Krause) is respectfully traversed and should be withdrawn.

The rejection of claims 13 and 26 under 35 U.S.C. §103(a) as being unpatentable over Catalyst, Goutzoulis and Krause in further view of Mongan et al. '982 (hereafter Mongan) is respectfully traversed and should be withdrawn.

The rejection of claims 22 and 24 under 35 U.S.C. §103(a) as being unpatentable over Catalyst, Goutzoulis and Krause in further view of Smith et al. '874 (hereafter Smith) is respectfully traversed and should be withdrawn.

Catalyst concerns a bus analyzer/exerciser/tester system. Goutzoulis concerns a method and apparatus for generating and transferring high speed data for high speed testing applications (Title). Krause concerns an apparatus and method for implementing

a bank interlock scheme and related test mode for multibank memory devices (Title). Mongan concerns a network distributed automated testing system (Title). Smith concerns a 10Base-T portable link tester (Title).

Claim 1 provides a host emulator having (i) a first interface coupled to a low speed tester to receive a test vector at a first speed and (ii) a second interface configured to (a) transmit a first test packet to a device at a second speed faster than the first speed. In contrast, the Office Action states on page 5, "Catalyst does not explicitly state that the emulator transmits test data at a second speed faster than the first speed received from the low-speed tester." No evidence is provided in the Office Action that Goutzoulis or Krause cure the different speed deficiency of Catalyst. Therefore, Catalyst, Goutzoulis and Krause, alone or in combination do not teach or suggest a host emulator having (i) a first interface coupled to a low speed tester to receive a first test packet at a first speed and (ii) a second interface configured to (a) transmit a first test packet to a device at a second speed faster than the first speed as presently claimed.

Furthermore, Applicants' representative respectfully traverses the assertion on pages 5-6 of the Office Action that the well-known maximum data transfer rates of parallel ports are slower than a USB 1.x port. Inherency requires certainty of results, not mere possibility. See, e.g., *Ethyl Molded Products Co. v. Betts Package, Inc.*, 9 U.S.P.Q. 2d 1001 (E.D.Ky 1988). See also, *In re*

Oelrich, 666 F.2d 578, 581, 212 USPQ 323, 326 (C.C.P.A. 1981). In particular, the "LPT Port Setting" section on page 10 of the Catalyst User's Manual indicates that the parallel port between a host computer (asserted similar to the claimed low speed tester) and an SBAE-10 (asserted similar to the claimed host emulator) can be set as ECP or EPP. The "USB Info: Frequently Asked Questions" reference states that ECP/EPP parallel ports can transfer data at 3MBYTES/s while an Original USB operates at 1.5 MBYTES/s. There is **no certainty** that a parallel port transmit data at a speed slower than a USB 1.x bus since a parallel port may transfer data twice as fast as a full-speed USB 1.x bus. Therefore, inherency has not been established.

Furthermore, MPEP §2112 states:

"In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art. " *Ex parte Levy* 17 USPQ2d 1461, 1464, 1464 (Bd. Pat. App. & Inter. 1990)(emphasis in original)

However, no evidence or convincing line of reasoning has been provided in the Office Action why transferring data from the host computer (asserted similar to the claimed low speed tester) to the SBAE-10 (asserted similar to the claimed host emulator) at a slower rate than transferring data between the SBAE-10 and another USB device **necessarily flows** from using a parallel bus between the host computer and the SBAE-10. Therefore, inherency has not been established.

Furthermore, the assertion on page 12 of the Office Action that the "Bi-directional mode" setting of the SBAE-10 means use of a "standard" 115 kBytes/second parallel bus appears to be a conclusory statement lacking any supporting evidence. The parallel bus between the host computer and SBAE-10 of Catalyst is clearly a bi-directional bus. However, page 10 of the Catalyst User's Manual states, "Note that Standard or Compatible modes **are not** a Bi-directional mode." (Emphasis added) Referring to Appendix A, a common name for a PC parallel port in a "standard" mode is an "SPP mode". However, Appendix A also states that the SPP mode means **unidirectional** data lines. One of ordinary skill in the art would appear to understand that the standard mode is not a bi-directional mode, contrary to the assertion in the Office Action. The bi-directional mode mentioned by Catalyst appears to be something other than the standard mode. Therefore, the Office Action fails to establish that the bi-directional mode of Catalyst is a slower mode than the USB 1.x bus.

Furthermore, page 7 of the Office Action asserts that the proposed combination of Catalyst and Goutzoulis would provide "the high speed vectors required by Catalyst". If the host computer of Catalyst is receiving high speed vectors, then it would logically follow that the interface between the Catalyst host computer and the SBAE-10 in the proposed combination would operate at "high speed" as well to transfer the high speed test vectors. Therefore, the Office Action appears to be arguing on page 7 that the proposed

combination of Catalyst and Goutzoulis would use the parallel bus in a high speed mode.

Furthermore, page 7 of the Office Action asserts that the parallel bus of Catalyst could be obviously replaced by two separate interfaces. Assuming, *arguendo*, that the asserted replacement was obvious (for which Applicants' representative does not necessarily agree), the assertion that Catalyst prefers a bi-directional mode for the parallel bus is moot as no parallel bus would exist between the host computer and SBAE-10. Therefore, the Office Action fails to establish that the proposed separate interface carrying data from the host computer (asserted similar to the claimed low speed tester) to the SBAE-10 (asserted similar to the claimed host emulator) operates at a speed slower than a speed of the USB 1.x bus (asserted similar to the claimed second speed). As such, the Office Action fails to establish that the references teach or suggest all of the claim limitations.

Furthermore, the Office Action fails to provide clear and particular evidence of motivation to combine Catalyst with Goutzoulis. In particular, page 7 of the Office Action asserts that alleged motivations are found in Goutzoulis column 2, lines 25-30 and column 3, lines 8-13 to (1) provide a method "for producing the high speed vectors required by Catalyst", (2) provide "necessary tester interconnections" and (3) "allow precise control of required DUT input time delays." The cited text of Goutzoulis reads:

By using optical techniques for generating and transferring the input test vectors to the DUT, our apparatus is capable of generating ultrashort picosecond-type pulses, implementing high-speed multi-channel multiplexing devices, and providing the necessary high-speed DUT-tester interconnections. (Column 2, lines 25-30)

The N optical pulses 19 are time-multiplexed by means of an N:1 optical time-multiplexer 22. The output 23 of the optical time-multiplexer 22 is connected to a variable time-delay device 24 which allows precise control of the input skew required by the device under test (DUT) 28. (Column 3, lines 8-13)

Nowhere in the above text, or in any other section does Goutzoulis appear to mention (i) producing high speed vectors required by Catalyst, (2) providing necessary tester interconnections to anything remotely resembling the host computer of Catalyst or (3) that a USB device (DUT) requires precise control of input time delays. Therefore, all of the alleged motivations appear to be merely conclusory statements. The Examiner is respectfully requested to either (i) explain why one of ordinary skill in the art would reach the same conclusions as in the Office Action regarding the alleged motivations or (ii) withdraw the rejection.

Claim 1 further provides a host emulator having (i) a first interface coupled to a low speed tester and (iii) a third interface to the low speed tester. In contrast, both Catalyst and Goutzoulis appear to be silent regarding two interfaces between the host computer and the SBAE-10. Therefore, Catalyst and Goutzoulis, alone or in combination, do not appear to teach or suggest a host emulator having (i) a first interface coupled to a low speed tester and (iii) a third interface to the low speed tester as presently claimed.

Furthermore, clear and particular motivation has not been established to modify the combination of Catalyst and Goutzoulis with Krause. In particular, page 7 of the Office Action alleges a first motivation "to use whichever type of device is most readily available". However, the first alleged motivation is not credited to any reference or knowledge generally available to one of ordinary skill in the art as required by MPEP §2142. The Examiner is respectfully requested to either (i) identify the source of the first alleged motivation, and if knowledge generally available, provide evidence or (ii) withdraw the rejection.

Assuming, *arguendo*, that the first alleged motivation is valid (for which Applicants' representative does not necessarily agree), Figure 1 on page 1 of the Catalyst User's Manual shows that a parallel bus is readily available. Therefore, using the Office Action's own motivation, one of ordinary skill in the art would appear to be motivated to keep the parallel bus of Catalyst as-is since the parallel port is "readily available". Furthermore, the fact that references can be combined or modified is not sufficient to establish *prima facie* obviousness (MPEP §2143.01).

A second alleged motivation appears on page 5 of the Office Action in which "the combination would have reduced a possibly [sic] of data collision between the low-speed tester and the host emulator both sending data to each other at the same time, by providing distinct interfaces for handling each type of data transmission". However, the second alleged motivation is not credited to any reference or knowledge generally available to one

of ordinary skill in the art as required by MPEP §2142. Therefore, the above alleged motivation is merely a conclusory statement. The Examiner is respectfully requested to either (i) identify the source of the alleged motivation, and if knowledge generally available, provide evidence or (ii) withdraw the rejection.

A third alleged motivation appears on page 8 of the Office Action in which separating the parallel port of Catalyst into two separate interfaces reduces "the required complexity of the system by separating a bi-directional interface, that would have to be able to handle and route both data received from the low-speed tester as well as data from the emulator for transmission to the low-speed tester, into two separate distinct interfaces". Page 16 of the Office Action asserts that the third alleged motivation is knowledge generally available to one of ordinary skill in the art. However, no evidence or convincing line of reasoning is provided in the Office Action in support of the generally available knowledge assertion. As such, the generally available knowledge assertion appears to be merely a conclusory statement. The Examiner is respectfully requested to either (i) provide evidence of the generally available knowledge or (ii) withdraw the rejection.

Furthermore, each of Goutzoulis and Krause appear to be non-analogous art. MPEP 2141.01(a) states:

"In order to rely on a reference as a basis for rejection for an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor

was concerned." *In re Oetiker*, 977 F.2d 1443; 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992)

The Applicants' field of endeavor is verifying operation of a USB device with a production test mode device (application page 1, lines 7-8). In contrast, neither Goutzoulis nor Krause appear to be within the field of verifying operation of a USB device. The particular problems with which the inventors are concerned include tester cost (page 2, lines 4-5), full characterization (page 2, lines 17-20), non peer-to-peer testing (page 3, lines 3-6) and initiating communications from a slave device (page 3, lines 11-14). In contrast, neither Goutzoulis nor Krause appear to be reasonably pertinent to any of the problems with which the inventors are concerned. Therefore, *prima facie* obviousness to combine the references has not been established as both Goutzoulis and Krause appear to be non-analogous art.

Furthermore, the assertions on page 17 of the Office Action that the Applicants' invention concerns (i) bi-directional communication during testing operations and (ii) test vector communication to a testing device appear to be irrelevant to the criteria of MPEP 2141.01(a), reproduced above. MPEP 2141.01(a) does not appear to have any criteria based upon what an invention concerns.

Furthermore, the assertion on page 17 of the Office Action that Applicants' field of endeavor, the invention of Krause and the invention of Goutzoulis are all in a field of device testing also appears to be a conclusory statement. In particular,

the Office Action offers no evidence in support of the assertion and no statutory basis for comparing the alleged fields of endeavor at a high abstracted level. Therefore, *prima facie* obviousness has not been established for lack of evidence that the Krause and Goutzoulis references are analogous art.

The Office Action fails to establish a reasonable expectation of success as required by MPEP §2142. In particular, the proposed combination of Catalyst, Goutzoulis and Krause is never clearly defined in the Office Action and no mention of a reasonable expectation of success is made. Therefore, *prima facie* obviousness has not been established.

The proposed combination of Catalyst and Goutzoulis appears to change a principle of operation of Catalyst. MPEP §2143.01 states:

If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then that teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959).

In particular, FIGS. 1 and 3 of Goutzoulis illustrate generating high speed test vectors in optical form on a unidirectional link to a DUT 28. Modifying the SBAE-10 and the USB DUT of Catalyst to accommodate the optical signals of Goutzoulis would make the interface between the SBAE-10 and the USB DUT noncompliant with the USB 1.x specification. One of ordinary skill in the art would appear to understand modifying the SBAE-10 analyzer to operate on a non-USB compliant bus would change a principle of operation for

the SBAE-10 analyzer. Therefore, the proposed combination of Catalyst and Goutzoulis does not appear to render the claims *prima facie* obvious per MPEP §2143.01.

In summary, the Office Action fails to establish *prima facie* obviousness for lack of evidence for (i) motivation to combine the references, (ii) a reasonable expectation of success, (iii) Catalyst and Goutzoulis as analogous art and (iv) the proposed combination teaching all of the claim limitations. Furthermore, the proposed combination appears to alter a principle of operation of Catalyst. Claims 15 and 16 provide language similar to claim 1. As such, the claimed invention is fully patentable over the cited references and the rejection should be withdrawn.

Claim 4 provides a test vector generator configured to transfer a test vector to a low speed tester. In contrast, the Office Action fails to argue that any of the references teach or suggest a test vector generator configured to transfer a test vector to a low speed tester as presently claimed. Claim 19 provides language similar to claim 4. As such, *prima facie* obviousness has not been established for lack of evidence that the references teach all of the claim limitations and the rejection should be withdrawn.

Claim 6 provides that the low speed tester is configured in response to the test vector. In contrast, the Office Action fails to argue that any of the references teach or suggest a low speed tester configured in response to a test vector as presently

claimed. Claim 18 provides language similar to claim 6. As such, *prima facie* obviousness has not been established for lack of evidence that the references teach all of the claim limitations and the rejection should be withdrawn.

Claim 7 provides that the test vector generator is configured to generate the test vector. In contrast, the Office Action fails to argue that any of the references teach or suggest a test vector generator configured to generate a test vector as presently claimed. As such, *prima facie* obviousness has not been established for lack of evidence that the references teach all of the claim limitations and the rejection should be withdrawn.

Claim 11 provides (i)(from claim 1) a host emulator having a second interface configured to receive a response from a device and (ii)(from claim 11) the device is configured to initiate transmission of one or more second test packets under control of the host emulator. In contrast, each of Catalyst, Goutzoulis and Krause appear to be silent regarding a device configured to initiate transmission of one or more second test packets under control of a host emulator as presently claimed. Furthermore, the argument on page 5 of the Office Action that a device "initiates the transmission of a response packet" appears to reference the elements incorporated by dependency from claim 1. Using the Office Action's own terminology for describing Catalyst, Catalyst only appears to be capable of generating responses to test packets. In contrast, Catalyst appears to be silent, and no evidence is provided in the Office Action where Catalyst teaches or suggests

the USB DUT **initiating a test packet** as presently claimed. Therefore, Catalyst, Goutzoulis and Krause, alone or in combination, do not appear to teach or suggest a host emulator having a second interface configured to receive a response from a device and the device being configured to initiate transmission of one or more second test packets under control of the host emulator as presently claimed. Claim 25 provides language similar to claim 11. As such, claims 11 and 25 are fully patentable over the cited references and the rejection should be withdrawn.

Claim 14 provides that the apparatus is configured to perform at least one test of a plurality of test modes wherein the plurality of test modes comprise USB 2.0 defined test modes. Despite the assertion on page 5 of the Office Action, page 2, lines 1-4 of the Catalyst User's Manual appear to be silent regarding USB 2.0 test modes. Therefore, *prima facie* obviousness has not been established for lack of evidence that the references teach all of the claim limitations. Claim 20 provides language similar to claim 14. As such, the rejection of claims 14 and 20 should be withdrawn.

Claim 21 provides that the host emulator is configured to generate a first done signal to indicate one of (i) successful reception of a second test packet initiated from a device within a predetermined time and (ii) no successful reception of the second test packet within the predetermined time. Despite the assertion on page 5 of the Office Action, Catalyst appears to be silent regarding a USB DUT generating a test packet and the SBAE-10

(asserted similar to the claimed host emulator) checking reception of the phantom test packet against a predetermined time. Therefore, Catalyst, Goutzoulis and Krause, alone or in combination, do not appear to teach or suggest a host emulator configured to generate a first done signal to indicate one of (i) successful reception of a second test packet initiated from a device within a predetermined time and (ii) no successful reception of the second test packet within the predetermined time as presently claimed. Claim 23 provides language similar to claim 21. As such, the rejection of claims 21 and 23 should be withdrawn.

Regarding claims 13 and 26, Mongan appears to be non-analogous art. In particular, MPEP 2141.01(a) states:

"In order to rely on a reference as a basis for rejection for an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned." *In re Oetiker*, 977 F.2d 1443; 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992)

The Applicants' field of endeavor is verifying operation of a USB device with a production test mode device (application page 1, lines 7-8). In contrast, Mongan does not appear to be within the field of verifying operation of a USB device. The particular problems with which the inventors are concerned include tester cost (page 2, lines 4-5), full characterization (page 2, lines 17-20), non peer-to-peer testing (page 3, lines 3-6) and initiating communications from a slave device (page 3, lines 11-14). In contrast, Mongan does not appear to be reasonably pertinent to any of the problems with which the inventors are concerned. Therefore,

prima facie obviousness to combine the references has not been established as Mongan appears to be non-analogous art.

Claim 22 provides that the device is configured to assert a second done signal through a discrete output in response to successfully receiving a first test packet from the host emulator. Despite the assertion on page 10 of the Office Action, Smith appears to be silent regarding a DUT asserting a done signal through a discrete output to light an LED in response to successfully receiving a test packet from a PC host. In particular, the "test device" of Smith cited by the Office Action appears to be a piece of test equipment, not a device under test. Therefore, Catalyst, Goutzoulis, Krause and Smith, alone or in combination, do not appear to teach or suggest a device configured to assert a second done signal through a discrete output in response to successfully receiving a first test packet from a host emulator as presently claimed.

Furthermore, the Office Action fails to provide clear and particular motivation to combine the Catalyst, Goutzoulis and Krause with Smith. Despite the assertion on page 10 of the Office Action, column 1, lines 47-49 and column 2, lines 9-11 of Smith do not appear to mention the alleged motivations. The cited text of Smith reads:

Thus, a need has arisen for a simple network link tester which a user can use to determine if the problem is with his or her computer or the wiring/hub. (Column 1, lines 47-49)

The AUI/transceiver combination is connected to four LED's serving as the feedback portion of the user interface. (Column 2, lines 9-11)

Nowhere in the above text, or in any other section does Smith appear to mention (i) providing "a clear, simplified method for indicating to a user that test data is being obtained by the device" or (ii) "improving analysis by allowing the user to instantly diagnose a condition of a connection between the device and other components" as alleged in the Office Action. Therefore, the alleged motivations appear to be merely conclusory statements. As such, *prima facie* obviousness has not been established for lack of evidence to modify.

Furthermore, Smith appears to be non-analogous art. In particular, MPEP 2141.01(a) states:

"In order to rely on a reference as a basis for rejection for an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned." *In re Oetiker*, 977 F.2d 1443; 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992)

The Applicants' field of endeavor is verifying operation of a USB device with a production test mode device (application page 1, lines 7-8). In contrast, Smith does not appear to be within the field of verifying operation of a USB device. The particular problems with which the inventors are concerned include tester cost (page 2, lines 4-5), full characterization (page 2, lines 17-20), non peer-to-peer testing (page 3, lines 3-6) and initiating communications from a slave device (page 3, lines 11-14). In contrast, Smith does not appear to be reasonably pertinent to any of the problems with which the inventors are concerned. Therefore, *prima facie* obviousness to combine the references has not been

established as Smith appears to be non-analogous art. Claim 24 provides language similar to claim 22. As such, claims 22 and 24 are fully patentable over the cited references and the rejection should be reversed.

COMPLETENESS OF THE OFFICE ACTION

Aside from a notice of allowance, Applicants' representative respectfully requests any further action on the merits be presented as a new action. 37 CFR §1.104(b) states:

(b) *Completeness of examiner's action.* The examiner's **action will be complete as to all matters**, except that in appropriate circumstances, such as misjoinder of invention, fundamental defects in the application, and the like, the action of the examiner may be limited to such matters of form need not be raised by the examiner until a claim is found allowable. (Emphasis added)

No arguments were presented directed to claims 4, 6, 7, 18 or 19. A review of the references does not appear to show how the claimed elements are taught or suggest in the proposed combination. As such, the current Office Action is incomplete and either (i) a new Office Action on the merits or (ii) a Notice of Allowance should be issued.

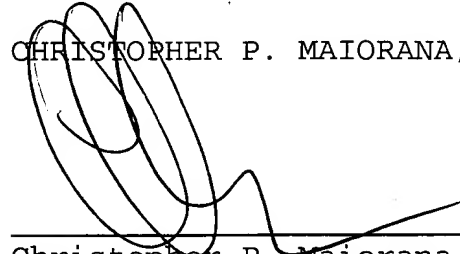
Accordingly, the present application is in condition for allowance. Early and favorable action by the Examiner is respectfully solicited.

The Examiner is respectfully invited to call the Applicants' representative should it be deemed beneficial to further advance prosecution of the application.

If any additional fees are due, please charge our office
Account No. 50-0541.

Respectfully submitted,

CHRISTOPHER P. MAIORANA, P.C.

A handwritten signature in black ink, consisting of several loops and a long horizontal stroke extending to the right.

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Dated: March 21, 2005

Docket No.: 0325.00418

The PC parallel port

Port modes

The most important feature of the parallel port of your PC is its mode. Possible modes are **SPP**, **PS/2**, **EPP** and **ECP**.

On 286, 386 and older 486 machines, the parallel port is on a separate card (e.g. I/O card, parallel port card, Hercules video card with a built-in parallel port) and it is SPP or PS/2. If it isn't then you might find jumpers on the card to set the mode. Refer to the documentation of your card for more details.

On newer 486 and all Pentium (and above) machines, the parallel port is integrated onto the motherboard and you can set its mode in the BIOS setup. The usual aliases for the SPP mode are "Compatible", "Normal" or "Standard". "BPP" and "Extended" usually stands for the PS/2 mode and "Enhanced" for either the EPP or the ECP mode.

However, on most Pentium and above motherboards, setting the parallel port to SPP mode won't give you a true SPP port because of the slight changes in the electronical layout of the parallel port.

Don't rely on what port mode your BIOS setup shows. Rather check the real mode of your parallel port with LPTDetect or The Star Commander.

SPP mode means bidirectional control lines and unidirectional data lines. The X1541 cable makes use of the bidirectional control lines. PS/2 differs from SPP in that its data lines are also bidirectional. EPP and ECP offers several enhanced features, that PC software can make use of, but the control lines are not bidirectional anymore in these modes.

If you are interested in the electronical details of PC parallel ports and the X1541-series cables, please, read the Technical background information section in The Star Commander documentation.

Compatibility

Here's a compatibility chart between cables and parallel ports of different modes.

X1541-series cables

Cable	SPP	PS/2	EPP/ECP
<u>X1541 cable</u> [1]	YES	YES	no
<u>XE1541 extended cable</u> [2]	YES	YES	YES
<u>XM1541 multitask cable</u> [2]	YES	YES	YES
<u>XA1541 active cable</u>	YES	YES	YES
<u>XH1541 hybrid cable</u>	YES	YES	YES
<u>XP1541 parallel cable</u>	no	YES	YES

1. You can check if your parallel port is compatible with the X1541 cable with X1541Test.